

METHOD AND APPARATUS FOR RELEASABLY ATTACHING  
A POLISHING PAD TO A CHEMICAL-MECHANICAL  
PLANARIZATION MACHINE

ABSTRACT OF THE DISCLOSURE

A method and apparatus for releasably attaching a planarizing medium, such as a polishing pad, to the platen of a chemical-mechanical planarization machine. In one embodiment, the apparatus can include several apertures in the upper surface of the platen that are coupled to a vacuum source. When a vacuum is drawn through the apertures in the platen, the polishing pad is drawn tightly against the platen and may therefore be less likely to wrinkle when a semiconductor substrate is engaged with the polishing pad during planarization. When the vacuum is released, the polishing pad can be easily separated from the platen. The apparatus can further include a liquid trap to separate liquid from the fluid drawn by the vacuum source through the apertures, and can also include a releasable stop to prevent the polishing pad from separating from the platen should the vacuum source be deactivated while the platen is in motion. In another embodiment, a signal can be applied to the platen to draw the polishing pad toward the platen via electrostatic or electromagnetic forces. In still another embodiment, the polishing pad can be attached to a pad support and conditioned on a separate jig.